

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of)
)
Advanced Television Systems)
and Their Impact Upon the)
Existing Television Broadcast)
Service)

MM Docket No. 87-268

Sixth Further Notice of)
Proposed Rule Making)

REPLY COMMENTS OF ZENITH ELECTRONICS CORPORATION

Zenith Electronics Corporation, a long-time leader in consumer electronics and cable technologies and a pioneer in digital television systems (including the development of the digital transmission subsystem of the Grand Alliance HDTV system upon which the ATSC DTV Standard, recently adopted by the Commission, is based) hereby replies to the comments filed on November 22, 1996 in response to the Commission's Sixth Further Notice of Proposed Rule Making in its Advanced Television proceeding. The Sixth NPRM deals with the allotment and assignment of DTV channels to broadcasters, and is one of the final remaining steps to be taken by the Commission in ushering in a new era of digital broadcast television.

Zenith urges the Commission to act as expeditiously as possible to adopt a table of DTV channel assignments, so that the implementation of digital broadcast television can proceed in earnest. We also offer the following brief comments in response to issues raised

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concerning planning factors for determining DTV station coverage area, and the implications of these factors for DTV receiver performance requirements.

In its comments the Association of Federal Communications Consulting Engineers (AFCCE) makes a proposal to relieve the requirement for very high average transmitter power that is created by replicating the Grade B coverage contour of a low-band VHF NTSC station with a UHF DTV station. Because the predicted required average power is as high as 5 megawatts ERP, there is a great incentive to find other means of replicating the coverage area.

The AFCCE correctly points out that reception under extreme conditions (e.g., beyond the effective radio horizon) can be facilitated with a preamplifier located at the receiving antenna. In fact, this is a common, proven practice for reception of distant analog NTSC signals, and modestly priced amplifiers are readily available for this purpose. It is also known from the field tests of the Grand Alliance system conducted by the Commission's Advisory Committee in Charlotte, NC, that within the effective radio horizon DTV signals can be received successfully without a preamplifier.

Zenith encourages the application of proven techniques where necessary for reception of DTV at particularly difficult distant locations; however, the suggestion that all DTV receivers should incorporate capabilities such as a receiver-controlled "smart" antenna is unfounded and inappropriate. First, the experience with NTSC shows that the market will provide these types of solutions where required, and in the most economical manner for consumers, i.e., consumers at locations where reception is particularly difficult will bear the modest added cost of a solution without burdening the vast majority of consumers who will be able to receive DTV transmissions with a considerable reception margin. Second, the

application of such preamplifiers is highly dependent upon the particular circumstances of reception. In particular, tuner/preamplifier design involves tradeoffs of high dynamic range and large signal handling capability against noise performance levels and weak signal reception capability. The successful inauguration of DTV service will be highly dependent on performance in the presence of potentially interfering NTSC signals as well as on the propagation of the DTV signal itself. Therefore, Zenith strongly urges that such receiver design decisions be left to the marketplace, which has always provided the best and most economical solutions.

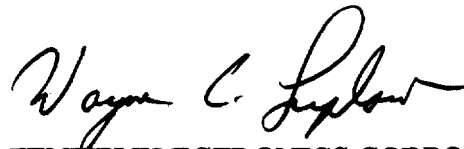
In a similar vein, a group of more than 200 broadcasters (the Broadcasters) urges the Commission to require equipment manufacturers to design tuners that perform at least to the minimum capabilities of the Grand Alliance system and at the level assumed by the Broadcasters' Modified Table with respect to the 7 dB UHF noise figure. They argue that minimum mandatory FCC receiver standards should require adaptive equalizer circuits, tuner performance, and noise figures necessary to protect the public's DTV signals from interference. Harris Corporation also urges the Commission to require all digital receivers to achieve the minimal interference levels of the Grand Alliance system.

As the developer of the Grand Alliance transmission subsystem, Zenith fully understands the concerns of broadcasters that predicted broadcast coverage areas cannot be achieved without adequate receiver performance. However, as we explained in our comments in the Fifth NPRM, we have no doubt whatsoever that the same marketplace forces that operate today to ensure that television manufacturers provide adequate reception performance will continue to motivate us all to compete to provide high-quality receivers. Nevertheless, we intend to work with broadcasters through the ATSC Implementation Subcommittee to

ensure that their concerns are met. If it is determined that minimum performance levels need to be established for DTV receivers, we believe they should be the subject of voluntary industry standards, and we would work with the ATSC and the Consumer Electronics Manufacturers Association to establish such standards, just as has been done with the current analog NTSC system for the past half century.

Accordingly, the Commission need not and should not impose performance requirements on DTV receivers, and the Commission should act as expeditiously as possible to adopt a table of DTV channel assignments so that the implementation of digital broadcast television can proceed in earnest.

Respectfully submitted,



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January 24, 1997